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Rev. J. G. MORRIS, D. D.

Dr. Morris, the venerable Lutheran clergyman and well-known entomologist, died at his home at Lutherville (near Baltimore, Md.), on October the tenth, aged ninety-two years.

John Goodlove Morris was a son of Dr. John Morris, a surgeon in the Revolutionary War, whose commission was signed by Washington, and who died in his fifty-third year in 1805. Dr. Morris was born in York, Pa., Nov. 14, 1803. He was prepared for college at York County Academy, and at the age of seventeen years was admitted to the sophomore class at Nassau Hall, Princeton. Later he was transferred to Dickinson College, where he entered the senior class, and was graduated in 1822, taking the prize awarded the best declaimer. In October, 1826, having become a Lutheran minister, he was licensed to preach in Winchester, Va., and was soon called to the organization which afterward formed the First Lutheran Church, Baltimore. Here he remained thirty-three years.

Dr. Morris had been a lecturer before the Smithsonian Institution, was a member of the Royal Ante-Columbian Society of Northern Antiquaries, Copenhagen, of Die Naturhistorische Gesellschaft zu Nuremberg, Bavaria; of the Royal Historical Society, London; for twenty years an active member of the American Association for the Advancement of Science, and chairman

of the entomological sub-section of the same. He was elected a member of the American Entomological Society in 1859, a correspondent of The Academy of Natural Sciences, Philadelphia, in 1844, and was a member of the American Philosophical Society, and read an important paper at the celebration of the one hundred and fiftieth anniversary of that institution and was also a member of very many church organizations. Dr. Morris was a prolific writer on religious subjects as well as those of a scientific character. His principal contributions to the literature of entomology were very valuable; they were a "Catalogue of the Described Lepidoptera of North America," prepared for the Smithsonian Institution, Washington, 1860, and "Synopsis of the Described Lepidoptera of North America." Part I: Diurnal and Crepuscular Lepidoptera. Washington, 1862. The latter work contained descriptions of the then known Diurnæ, Sphingidæ and Bombycidæ. He was a professor of Natural History in the Maryland University, and possessed a fine collection of Lepidoptera. Dr. Morris was a delightful old gentleman, and his interest in entomology never abated in the least. We had a very pleasant visit from him when he came here to attend the celebration at the rooms of the American Philosophical Society.

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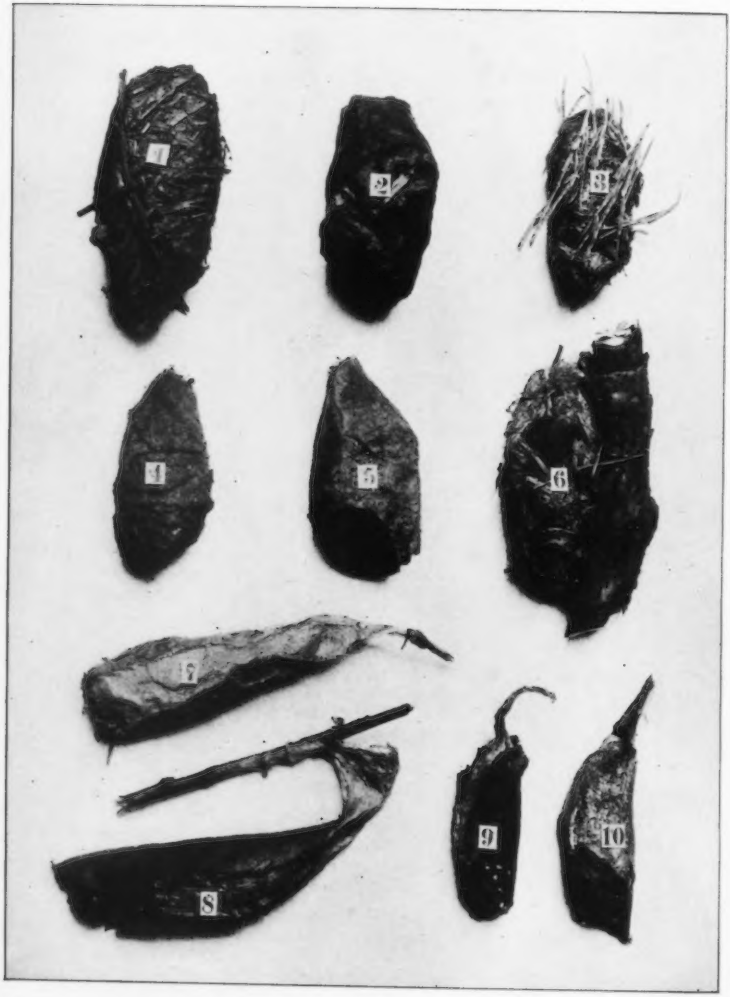
Notes on the Cocoons of Certain Species of Saturniidæ.

By PHILIP LAURENT.

In the September number of the "Canadian Entomologist," vol. xxvii, pp. 263–271, will be found a very interesting article by A. Radcliffe Grote, A. M. The article, among other things, treats of the manner in which certain of our North American Saturniidæ construct their cocoons. Two of our species, both of which are quite common in Pennsylvania and New Jersey, are here recorded as spinning their cocoons some distance above the ground, the one with a pedicel of silk to a small limb or branch, while the other as spinning its cocoon in the leaves. and falling to the ground when the leaves fall.

Now, the fact is, as regards these two species (*Callosamia angulifera* and *Actias luna*), at least as far as their habits in Pennsylvania and New Jersey are concerned, and I doubt not but what it is the same wherever the species are found, that both *angulifera* and *luna*, as a rule, with few exceptions, descend the



COCOONS.—Laurent.

tree to the ground to construct their cocoons. The only food-plant of *angulifera* that I am acquainted with is the tulip poplar, and under this tree I have found hundreds of *angulifera* cocoons, the position of the cocoon in every case showing conclusively that the larvæ had descended the tree and spun their cocoons where I found them. In the majority of cases more or less grass was fastened to the cocoon, and then again the cocoon would be found fastened against an old log or stone. In no case was there a pedicel of silk attached to the cocoon, in fact the cocoon of *angulifera* does not in any way resemble that of its near relative —*promethea*—but approaches more to that of *Actias luna*.

From time to time I have seen it stated that the cocoon of *angulifera* was suspended in the same manner as *promethea*. Some years ago, before I was as well acquainted with the life-histories of our large Saturniidæ as I am to-day, I made a test-case: I gathered all the cocoons found suspended on the tulip poplar tree, several hundred in number, and when the imago emerged all proved to be *promethea*. *Actias luna* has the same habits as *angulifera*, and the only cocoon I ever found suspended above the ground, and attached to a leaf, is now in my collection, kept as a curiosity, and bears the following label: "This cocoon found attached to an oak leaf about four feet above the ground, collected at Germantown, Pa., Feb., 1891." I have tried time and again to find the cocoon of *Actias luna* suspended up among the leaves, but the foregoing is the only instance that has come under my observation. One of the best places to find *luna* cocoons, as every Philadelphia collector knows, is down around the base of the tree, particularly so if there is any grass or rubbish around the tree. I have found as many as five or six cocoons around the base of one tree when the conditions were as above stated.

This habit of spinning the cocoon at the base of the tree is more strongly developed in *luna* than in *angulifera*, the latter generally being found some distance from the tree, anywhere from five to twenty feet or more.

The specimens of cocoons figured are from the collection of Philip Laurent and Dr. Henry Skinner.

EXPLANATION OF PLATE XIII.

Figs. 1, 2 and 3, *Actias luna*.
" 4, 5 and 6, *Callosamia angulifera*.
" 7, 8, 9 and 10, *Callosamia promethea*.

THE SEASON ON MT. WASHINGTON.

By ANNIE TRUMBULL SLOSSON.

I have made three trips to Mt. Washington this Summer. My first was in July. On the afternoon of the 4th I went from Franconia with a companion to Fabyan's, where we met our good friend, the sphagnostic, and with him a learned judge and botanist from Massachusetts. We took the 4.40 train up the mountain. This was the first visit for many years of the legal plant collector, and his excitemeut and enthusiasm were unbounded. He flew from side to side of the car, looking eagerly out and uttering strange exclamations, such as "Geum!" "Ledum!" "Potentilla tridentata!" and "Vaccinium vitis-idæa!" In the brief stops at tanks or wood-stations he sprang from the train to the intense amazement and amusement of the unscientific passengers; coming back at the last instant, breathless but happy, with hands and pockets full of weedy-looking treasure.

It was a warm and pleasant day, but grew cold as we neared the summit. As the train stopped in front of the hotel I went at once to investigate the sun-warmed walls of the house. Alas! what a cruel sight met my gaze. Insect life! no, it was insect death. The house had been painted a few days before, during a spell of very warm, still weather, and on that surface of dazzling white, tempting and treacherous, thousands on thousands of insects had met their fate. The walls were peppered, or—to use the expression of a frivolous and punning young friend—*stuccoed* with Diptera, Hymenoptera, Coleoptera and other orders. The greater part of these victims were utter wrecks and unrecognizable, and I was glad it was so; I did not want to know what I had lost. I rescued some beetles which were so strangely maculated with the white paint as to look like new and wonderful species. The painters and carpenters who had been working on the house in June told me that the weather had been very warm in that month and the insects numerous and annoying, swarming and buzzing about their heads and lighting on their faces and hands. There was little collecting that first evening. It was cold and we were glad to sit around the big stove in the hall and talk of what we should do next day. I searched the house, examined windows and walls, and took a few insects of no great interest.

The next day opened well, with sunshine and warm, soft air,

and insects were fairly abundant. But the afternoon and evening were dark and wet, and the next day it rained ceaselessly. But in the bright hours of our first collecting day, botanists and entomologists had taken specimens enough to keep each one busy through most of the cloudy weather. We worked in our rooms, leaving doors open and exchanging ideas, comparing notes and boasting mutually of our respective captures. Many times during that day the botanists came to my table where I was pinning, stretching or mounting my insects, bringing small contributions found among their alpine plants. I seem still to see the judge as he ran in upon one occasion, his face beaming, his thumb and forefinger pressed tightly together and held out towards me. "Where shall I put him?" he cried, "beautiful specimen, smooth and shining." I quickly produced a cyanide bottle, and over its open mouth he unclosed his fingers; alas! there was nothing there; the very smoothness and shine of which its captor spoke so exultantly had helped it to freedom, and it had slipped away forever. But this loss was quite forgotten when, a few minutes later, the same botanist brought a fine specimen of *Notiophilus sibiricus* which had run across his drying papers out of some mosses. The sphagnostic contributed several good things, among them that tiny and rare little Coccinellid, *Hyperaspis lugubris*, and two or three small Staphylinidæ. In the material taken the day before I found some very good things. There were several specimens of a pretty little weevil, *Anthonomus xanthocnemis* Dietz, *Mordella serval*, *Scymnus puncticollis* and *Corphyra cyanipennis*, all new to my Mt. Washington list. There were also some interesting Ichneumonidæ, and a few good Diptera. On the afternoon of the 6th two more botanists joined our ranks, both old acquaintances. How the old house rang that evening with the sound of strange, polysyllabic words, excited talk filled with mysterious phrases, cabalistic and incomprehensible to all but the favored few.

The next day was alternately fair and foggy; an hour of sunshine, then thick clouds, fog, and an occasional drizzle of rain. But we found many specimens both of plants and insects. In the intervals of sunshine flies, bees and small beetles gathered on the *arenaria*, *potentilla* and earliest golden-rod, and the air seemed alive with tiny Diptera and Hymenoptera. The smaller parasitica were very abundant, Chalcids, Braconidæ and Proctotru-

pidæ, among which Mr. Ashmead has found many interesting species. A tiny Chalcid, with striped wings, was abundant everywhere on flowers and leaves, windows and walls. One rainy day I counted forty of them on the upper sash of my bedroom window. It was one of the Encyrtinæ, *Isodromus montanus*, Ashmead MSS. The genus, Mr. Ashmead tells me, is parasitic on *Chrysopa* larvæ, generally issuing from their cocoons. And this reminds me that the green lace-winged fly of the summit which I had seen year after year and occasionally collected, was this Spring determined by Mr. Nathan Banks as *Meleoma signoretti* Fitch. I had never examined the species closely, taking it for granted that it was *Chrysopa oculata*, or some other common species. But it has distinct structural differences when compared with *Chrysopa*, having the antennæ more widely separated, and between them a sort of horn or tubercle. Mr. Banks called my attention to this in the one specimen I sent him last May, and this season I took several more of the same insect. I think there has been no record of its capture since its first description by Fitch. Neuroptera are few on the mountain; I took two or three species of *Hemerobius*, the little *Leuctra tenuis*, which rolls its wings up tightly when at rest like a *Crambus*, and *Platyphylax designata*. Of Odonata I saw only *Diplax rubicundula* this season.

Monday, the 8th, was one of the best days of the Summer—warm, bright and still. Insect life swarmed everywhere, and my bottles, boxes, stretching-boards and hands were more than full. As usual, every one contributed to my store, and I am glad to acknowledge here my obligations, not only to my fellow-naturalists, but to all the kindly people connected with the hotel. These took a warm interest in my collection and brought me many good things. The engineer of the hotel, Mr. William Colby, is a very observant and successful collector, and to him I owe many of my rarest insects. It was he who brought me my first specimen of *Ibalia maculipennis*, that large and odd Cynipid, and he found for me also *Adelocera brevicornis* and *Harpalus varicornis*, both new to my list.

During the rest of my stay on the mountain the weather was variable, sometimes fair, oftener foggy and wet. One evening another entomologist arrived, a Coleopterist, from Boston. With him was a young physician, not entomological himself, but an

excellent collector for others, as I am glad to testify. And now there was a great upheaval of the old mountain and alpine beetles were in serious danger of extinction. The Coleopterist and his obliging friend left, literally, no stone unturned. The summit looked as if shaken by an earthquake, and the ground was full of holes and pits of irregular shapes, from which heavy stones had been dragged by the brawny arms of these athletic and eager collectors. I have nothing but praise for this pair. If, where Coleoptera were concerned, they seemed grasping and niggardly, I must own that with insects of other orders they were most generous and free-handed, and they shared with me—nay, gave me all of the flies, bees, bugs and spiders found incidentally while searching for their precious beetles. One day, while sitting at my window busy over my treasures, I heard a call, and looking out saw the young doctor holding a large stone in his uplifted right hand as if in the act of hurling at my window glass. Looking more closely I detected something peculiar on the stone's surface, and ran out with a cyanide bottle. There, resting torpidly on the stone, was a perfect, fresh, lovely specimen of *Arctia quenselii*, the first I had ever seen alive. The same obliging youth added several specimens of the rare *Meleoma*, of which I have spoken, to my collection; and the Coleopterist brought me some of my choicest Tenthredinidæ and Diptera.

Under stones the same Carabidæ, Byrrhidæ and Elateridæ, so numerous in former seasons, were abundant now. Of Staphylinidæ, the little *Philonthus palliatus*, was most plentiful, its brilliant orange elytra shining brightly in the darkness as we turned over the stones. *Cicindela vulgaris* flew over the carriage-road, and was found, on cold days, torpid under sticks and stones. I took but one *C. longilabris* this year, and one *C. purpurea*, the latter new to my mountain list. In Diptera I captured several new species and many rare things. One of the most interesting, so says Mr. Coquillett, was a little black Leptid, the *Spania edeta* of Walker. In this order I added some ninety additional species to my list. In Hymenoptera, one of the most common species was *Cryptus extrematis* a pretty red and black insect with apex of abdomen white. This I had hitherto taken only in southern Florida. Several of the Scolytidæ were abundant. especially *Polygraphus rufipennis*, which gathered on the windows and walls and filled the air by hundreds. I took in this group, also,

Tomicus pini and *Xyloterus bivittatus*. In Hemiptera I found several rare and interesting species, among them a tiny *Salda* at the edges of pools, on the summit, which is perhaps new.

In Lepidoptera I found less than usual, the weather not being favorable. *Plusia vaccinii* and two species of *Anarta* were, as usual, flying over the rocks and about blossoms. The little *Sciaphila mæschleriana* was also abundant around golden-rod near the "cow pasture" and in the alpine garden. *Grapta faunus*, *G. gracilis* and *Limenitis arthemis* were flying along the carriage-road up to the very summit. *Argynnis montinus* was not seen during my first visit, but in a later trip to the mountain in August I took several. It was in this later visit that I captured, on golden-rod in the alpine garden, a very remarkable and handsome *Hepialus*. It resembles, in marking and coloration, the European *H. ganna* or some of its varieties, but is, I think, much larger than any of these. I am still absent from my own collection and have no access to others, and have consequently been unable to make the necessary examination and comparison. None of this group have been recorded from the White Mountains.

Two years ago I found a singular Bombycid larva on the summit and referred to it in one of my papers. This season I found two or three more of the same kind and sent one to Mr. Dyar. He thinks it the larva of *Dasychira rossii*, and will doubtless report the results of his examination.

One of the most noticeable things in insect life on Mt. Washington this season was the abundance and destructiveness of one of the oil-beetles, *Epicauta cinerea*. Last Summer I found one specimen on the summit; this year they were there in countless numbers devouring plants of all species.

On the whole I am satisfied with the results of my season's collecting on the mountain. I spent twenty-three days in all on the summit, and but a very small proportion of these were really favorable as to weather. Yet I have added over three hundred species to my former lists, and among these are at least fifteen or twenty new to science. I shall soon print their names in another additional list.

Out of eighteen papers presented at the section of Zoology of the American Association, at Springfield, eight were on entomological subjects.

RHOPALOCERA OF TENNESSEE.—II.

By WILLIAM OSBURN.

26. *Thecla halesus* Cram.—Rare; August and September. One brood; probably hibernates in the pupa state. Food-plant, oak.

27. *T. m-album* Bd.-Lec.—Rare; June to September. Two broods; probably the pupa hibernates. Food-plant, oak.

28. *T. humuli* Harr.—Rare; June to September. Two broods, possibly three; probably the pupa hibernates. Food-plant, hop vine.

29. *T. smilacis* Bd.-Lec.—Rare; June and August. Two broods; probably the pupa hibernates. Food plant, smilax.

30. *T. pœas* Hüb.—Common in dense woods; May to September. Two broods. Food-plant unknown.

31. *Feniseca tarquinius* Fabr —Rare; June and August. Two broods; probably hibernates in the pupa state. Carnivorous, feeding on *Aphides* found on alder, wild currant, etc.

32. *Lycæna pseudargiolus* Bd.-Lec.—Rare; May to August. Two broods; the chrysalis probably hibernates. Food-plants: dogwood, rattleweed, etc.

33. *L. comyntas* Gdt.—Abundant; April to September. Three broods; the chrysalis hibernates. Food-plant. red clover.

34. *Pieris protodice* Bd.-Lec.—Abundant; March to November. Several broods, probably four; the pupa hibernates. Food-plants: plantain, etc. Not destructive to cabbage in this section; the light form is sometimes the female; the Winter form, *vernalis*, emerges in March.

35. *P. rapæ* Linn.—Abundant; March to November. Four broods, possibly more; the pupa hibernates. Food-plant, cabbage.

36. *Nathalis iole* Bdv.—Rare; July and August. One brood, possibly two. Food-plant unknown.

37. *Catopsilia eubule* Linn.—Rare; July to September. One brood; the pupa probably hibernates. Food-plant, senna.

38. *Meganostoma cæsonia* Stoll.—Rare; April to September. Three broods; the pupa hibernates. Food-plant, clover.

39. *Colias eurytheme* Bdv.—Somewhat common; June to September. Two broods, possibly three; the pupa probably hibernates. Food-plant, clover.

40. *C. philodice* Gdt.—Abundant; May to October. Three or more broods; the pupa hibernates. Food-plant, clover. Examples of var. *albinic* were taken in July and August.

41. *Terias nicippe* Cram.—Abundant; June to October. Three broods; probably hibernates in the pupa state. Food-plant, senna.

42. *T. lisa* Bd.-Lec.—Somewhat common; July to October. Two broods; probably hibernates in the pupa state. Food-plant, clover. Var. *alba* occasionally observed.

43. *Papilio ajax* Linn.—Somewhat common; April to October. Two broods; the pupa hibernates. Food-plant, pawpaw. Var. *marcellus* taken in the Summer months.

44. *P. turnus* Linn.—Somewhat common; April to September. Two broods; the pupa hibernates. Food-plants: apple, cherry, etc. Var. ♀ *glaucus* frequently seen in August and September.

45. *P. cresphontes* Cram.—Rare; June to September. Two broods; the pupa hibernates. Food-plant, prickly ash.

46. *P. asterias* Fabr.—Rare; July and August. Two broods; the pupa hibernates. Food-plant, parsnip.

47. *P. troilus* Linn.—Somewhat common; July to September. Two broods; the pupa hibernates. Food-plant, sassafras.

48. *P. philenor* Linn.—Abundant; April to October. Probably three broods; probably hibernates in the pupa state. Food-plant, probably Virginia snakeroot.

49. *Ancyloxypha numitor* Fabr.—Common; May to September. Two broods; the larva probably hibernates. Food-plant, grass.

50. *Pamphila zabulon* Bd.-Lec.—Common; May to August. Two broods. Food plant, grass.

51. *P. huron* Edw.—Abundant; April to September. Three broods. Food-plant unknown.

52. *P. phylæus* Dru —Somewhat common; June to September. Two broods. Food plant, grass.

53. *P. egerement* Scud.—Rare; June to August. Probably two broods. Food plant unknown.

54. *P. cernes* Edw.—Somewhat common; May to August. Three broods. Food-plant unknown.

55. *P. manataaqua* Scud.—Rare; one specimen, August. One brood. Food-plant, grass.

56. *P. verna* Edw.—Rare; August. One brood. Food-plant unknown.

57. *P. metacomet* Harr.—Rare; June to September. Two broods. Food-plant, grass.

58. *P. bimacula* G. and R.—Rare. One brood. Food-plant unknown.

59. *P. yehl* Skinner (see ENT. NEWS, vol. iv, p. 212).—June and September. Two broods. Food-plant unknown.

6c. *Amblyscirtes textor* Hüb.—Rare; June to September. Two broods. Food-plant unknown. Found in dense woods and along the dry beds of creeks.

61. *Pyrgus tessellata* Scud.—Abundant; June to October. Two broods. Food-plant unknown.

62. *Nisioniades juvenalis* Fabr.—Rare; April to September. Two broods; the pupa hibernates. Food-plants: species of *Apios* and *Lathyrus*.

63. *N. petronius* Lint —Somewhat common; April to September. Two broods. Food-plant unknown.

64. *Pholisora catullus* Fabr.—Abundant; April to September. Three broods. Food-plants: *Monarda punctata*, *Chenopodium album*, etc.

65. *P. hayhurstii* Edw.—Rare; May to August. Two broods. Food-plant unknown.

66. *Eudamus pylades* Scud.—Somewhat common; June to August. Two broods. Food-plant, clover.

67. *E. bathyllus* S. and A.—Common; June to August. Probably two broods. Food-plant unknown.

68. *Eudamus lycidas* S. and A.—Somewhat common; May to August. Two broods. Food-plant unknown.

69. *E. cellus* Bd. and Lec.—Rare; one specimen, August. Food-plant unknown.

70. *E. tityrus* Fabr.—Common; April to August. Three broods; hibernates in the chrysalis state. Food-plant, locust.

71. *Thecla calanus* Hüb.—Several specimens in June.

72. *Antho-caris genutia* Fab.—One specimen, April 27th.

73. *Pamphila ocola* Edw.—One specimen in August.

Since writing the above I have had another season's opportunity for observation. The following notes and additions may be of interest:

One specimen of *A. diana* was taken at Nashville, June 24. *V. antiopa* was seen in September. *P. cardui* was abundant from April to November, four broods appearing. *L. ursula* appeared from April to August, three broods. Three broods of *A. celtis* were observed, first imagoes appearing May 28, July 14 and August 25; also three broods of *Anæa andria*, imagoes from the first brood of larvæ emerging June 11. *N. gemma* was first observed on June 10. Late specimens of *M. cæsonia* were mostly var. *rosea*. A few specimens of *T. nicippe* var. *flava* were taken in August. *P. philenor* was bred in abundance from *Aristolochia tomentosa*. As pupæ and freshly emerged imagoes were seen in a region where this plant and allied species were not found, efforts were made to discover the food-plant for that locality. A female was observed depositing its eggs on *Pseudo-polygonella dumetorum*, Climbing False Buckwheat, and, though no larvæ were found, the above plant may, without doubt, be added to the food-list of this species.

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A New Collecting Ground for Cicindela limbata Say.

By W. KNAUS, McPherson, Kans.

Cicindela limbata Say is one of the handsomest, and, until within recent years, one of the rarest of this showy family of beetles. It was described by Thomas Say, in 1823, and is not the true species, being but a variety of *hyperborea* Lec. This beetle was lost for a number of years, but was retaken some fifteen years ago by E. P. Austin in Nebraska.

In his monograph of the Cicindelidæ in the Bulletin of the Brooklyn Entomological Society, Mr. F. G. Schaupp figures *limbata* from nature, and partially describes it as follows:

Head and thorax green, with cupreous tinge; elytra white, suture oblique, line and dot green, blue or cupreous; exterior and basal edge greenish blue, beneath blue. Head hairy rugose. Thorax hairy rugose, little convex; elytra punctured, smoother than in *hyperborea*, with a long, sutural, triangular merula; a small dot before the middle, and an oblique irregular line behind the middle; these markings are brilliantly shining, either green or blue, or cupreous. Length 12 mm.

It occurs, or has been taken, only in Nebraska, although it in all probability occurs in northeastern Colorado, eastern Wyoming, and possibly southwestern Dakota.

In the Spring of 1892, Lawrence Bruner, of the University of Nebraska, made a trip to the northwestern part of the State and took a few specimens in Box, Butte County. A few have also been taken near Alliance, Neb., on the line of the B. and M. Railroad. In the Fall of 1892 I learned, incidentally, that Mr. J. W. Vandeventer, a graduate of the State Agricultural College, Manhattan, Kans., had collected this species in southwest Nebraska. In answer to a letter of inquiry he wrote as follows:

"In May, 1888, I took a Sunday stroll from Imperial, Neb., to the Frenchman River, about six miles south of town. The Spring had been very early, and the day was quite warm. About a mile from the river, on a very sandy hillside, covered with a thin growth of Yucca, bunch grass and a few weeds, I noticed my first specimen of *C. limbata*. It was very active and seemed to have a decided preference for the cleanest, sandiest ground, avoiding that covered with vegetation. Associated with it was a species about half its size, of a deep blue color, entirely without markings. I saw perhaps half a dozen members of each species on the hillside.

"At the foot of the hill there was a dry water course having a channel, perhaps six feet wide, composed entirely of clean sand without vegetation. Here I found both species in considerable numbers, though the *limbata* were much the more numerous. I followed the water course to the river and found them very plentiful all along it. The holes of *C. limbata* were also plentiful, and I noticed many of them fly out of and also into them."

Wishing to collect this species personally, I made the trip the latter part of May, 1893, reaching Imperial, the county seat of Chase County, by way of the B. and M. Railroad, from Superior, and a branch road from Culbertson. Imperial is twenty-five miles east of the Colorado line and some six miles north of the Frenchman River, a pretty little stream of clear running water. The town is on the open level; as you go south you strike the sand hills, and for three miles before reaching the stream the country is very broken and hilly. I reached Imperial the morning of May 30th, and immediately started overland for the river. The day was warm and the walking over sand hills not at all pleasant. Bare sand was plentiful before reaching the stream, but I saw and took no Cicindelidæ, except an occasional *scutellaris*, *formosa* or *repanda*. I found no *limbata*, however, until I

found a deep "blow-out" close up to and on the north bank of the stream. Here, running over the sides and bottom of the "blow-out" I found them in considerable numbers. They were very active little fellows, but I succeeded in taking twenty-five or thirty in two hours' work with the net.

The surface I collected over was not over one hundred feet square, and they were taken only on sand without vegetation, or sparsely covered with grass.

I visited the same locality May 31st and June 1st, of this year, and found the beetles at the same "blow-out." The weather was cooler and took only a dozen specimens from 3 to 4 p. m. The next morning I took the first specimens shortly after 9 a. m., and up to 11.30 had taken over thirty specimens. I was told by a resident that he had seen this insect in large numbers at a large "blow-out" eight or ten miles farther up the valley of the Frenchman. He called them "calico" bugs. The species taken in this locality differ somewhat from those further northwest. E. A. Schwartz, of the Division of Entomology, Washington, D. C., says: "Your *Cicindela limbata* are smaller than those collected by Bruner, and with the green markings wider. I do not doubt that there is somewhere in Nebraska or further north where specimens will be found intermediate between *limbata* and *borealis*."

My specimens had, with two or three exceptions, green or blue markings. The exceptions were coppery bronze. While making these two trips I collected at Superior, Culbertson and McCook, and found some very good things. The list includes:

Cicindela scutellaris, at Culbertson and Imperial. *C. lecontei*, at Superior. *C. formosa*, at all three places. *Chlænius sericeus*, *nebraskensis* and *Brachylobus lithophilus*, at Culbertson. *Hister subrotundus* and *nubilus*, and *Saprinus pennsylvanicus*, *fraternus* and *patruelis*, at Superior. *Carpophilus pallipennis*, at Imperial. *Meligethes mutatus*, at Superior. *Hydnocera subfasciata*, at Imperial. *Ptilinus thoracicus*, at Superior. *Canthon nigricornis*, at Imperial; I have the same species from Florida. *Canthon ebenus*, at all three places. *Aphodius ruricola*, at Superior and Culbertson. *A. dentiger*, at Superior. *A. walshii*, at Superior and Imperial. *Lachnosterna crassissima*, at McCook. *Polyphylla* 10-*lineata*, at Imperial; very far east for this species. *Cremastochilus knochii*, at Superior. *C. nitens*, two specimens

at Imperial. *Pachybrachus cœlatus*, at Superior and Imperial. *Bruchus pruninus*, at Imperial. *B. siminulum*, at Superior and Imperial. *Eleodes tricostata*, at Superior. *E. extricata*, at all three places. *E. opaca*, at Superior and Imperial. *Blapstinus pratensis*, at Superior and Culbertson. *Blapstinus* sp., at Culbertson. *Nemognatha bicolor*, at Imperial. *Dorytomus mucidus*, at Superior. *Elleschus ephippiatus*, at Superior. *Baris*, sp., at Imperial. *Centrinus denticornis* Casey, in thistle flowers at Imperial. *Sphenophorus parvulus*, at Superior.

———o———

TYPES IN THE NEUMOEGEN COLLECTION.—II.

WITH A FEW NOTES THEREON.

By Dr. RODRIGUES OTTOLENGUI.

Since writing the first instalment of this paper a "type" which was not in the cabinets when I looked through the Sphingidæ, has been put in its place by the curator, Mr. Doll. This is

Smerinthus interfaunus ♂. Long Island, Doll.

This is a hybrid from a male *Astylus* with a female *Ocellata*. (Europe)

ARCTIIDÆ.

Crocota intermedia var. *parvula* ♀ Neum. and Dyar. Colorado, Bruce.*
Arctia intermedia var. *stretchii* ♂. Grote.
Arctia anna ♀ Grote. New York.
Arctia nevadensis var. *mormonica* ♂ (♂♀♀) Neum. Colorado, Bruce.
Arctia nevadensis var. *sulphurica* ♂ Neum. Arizona, Doll.
Arctia nevadensis var. *elongata* ♀ Stretch. Washington Territory.

In the "Revision of the Bombyces" by Neumoegen & Dyar, *mormonica* is cited as a synonym of *A. proxima* Guerin, while *nevadensis* is made a variety of *blakei*, with *sulphurica*, another variety of the same, *elongata* and *ochracea* being synonyms of *sulphurica*. The "type" of *ochracea* is not in the collection.

Arctia favorita ♂♂ Neum. Colorado, Bruce.
Arctia dieckii ♂ Neum. British Columbia.

Arctia dieckii, in the "Revision" is made a synonym of *determinata* Neum. which is cited as a var. of *williamsii*. I did not find the "type" of *determinata*, though the label may have been transferred to the "type" of *dieckii*.

* I think it proper to credit Mr. Bruce, for discovering new species, as well as Morrison and Doll.—R. O.

Arctia figurata var. *excelsa* ♂ (♂♀♀) Neum. North Carolina.
Arctia snowi ♀ (♀) Grote.
Arctia placentia var. *flammæ* ♀ Neum. Florida.

In the "Revision" *snowi* is also a variety of *placentia*.

Arctia decorata ♂ (3 ♂ 5 ♀) Saund. Long Island.

Besides the 'type" there are eight specimens, reared from a single brood of larvæ by Mr. Doll. There are red and yellow secondaries of both sexes, and there are two males in which the black border of the secondaries is replaced by hyaline edges as wide as the original border. Mr. Doll also had a female from same brood with hyaline secondaries.

Kodiosoma eavesii ♂ (♂) Stretch. California.
Nemeophila geddessii ♂ Neum. British Columbia.
Antarctia rubra ♂♀ Neum. Mount Hood.
Antarctia rubra var. *danbyi* ♂ (♀) Neum. & Dyar. British Columbia.

Antarctia rubra is also the "type" of a new genus—*Elpis* Neum. & Dyar.

Antarctia beanii ♂ (♂♀♀) Neum. Laggan.
Antarctia beanii var. *fuscosa* ♂ (♀) Neum. Laggan.

Antarctia beanii is also the "type" of a new genus—*Neoarctia* Neum. & Dyar.

Euchætes vivida ♂ (♀) Grote. Texas.
Euchætes yosemite ♂ Hy. Edwards. California.
Euchætes zonalis ♀ Grote. Arizona, Morrison.
Euchætes perlevis ♂♀ Grote. Arizona, Morrison.
Euchætes conspicula ♂♂ Neum. Colorado, Bruce.

A note by Mr. Neumoegen says that *conspicua* is a synonym of *spraguei*.

Arachnis zuni ♂ Neum. New Mexico.
**Nelphe carolina* ♂ Hy. Edwards. Florida.
Halisidota mixta ♂♀ Neum. Arizona, Morrison.
Halisidota minima ♂. Arizona.

Adjacent to this is a specimen labeled *Halisidota armillata* ♁ Hy. Edw., from Jalapa, Mexico, which Mr. Neumoegen considered a synonym of his *minima*.

Halisidota sanguinenosa ♂ Neum. Vancouver.

A brilliant cherry red. The most beautiful of the genus. This is a synonym of *roseata* Walk.

Euhalisidota pura ♂♀ Neum. Arizona, Morrison.

* Type also in Edwards' collection—American Mus. Nat. History, N. Y. City.

LIPARIDÆ.

Artaxa ingenita ♀ (♀) Hy. Edwards. Arizona, Doll.

Neumoegen and Dyar make this new genus, *Dalcerides*.

Varina ornata ♂ (♀) Neum. Florida.

This is a synonym of *Acherdes ferraria*.

Dyaria singularis ♂ Neum. Maine.

Type of genus as well as species.

LIMACODIDÆ.

Monoleuca obliqua ♂ Hy. Edwards.
Limacodes trigona ♂ Hy. Edwards. Arizona, Doll.

PSYCHIDÆ.

Pseudopsyche exigua ♂ Hy. Edwards. Arizona, Doll.

Type of genus as well as species.

NOTODONTIDÆ.

Ichthyura inornata ♂♀ Neum. Arizona, Doll.
Ichthyura strigosa (♂♀) Grote. Maine.
Ichythyura alethe ♀ Neum. and Dyar.
Apatelodes indistincta ♂ (♀) Hy. Edwards. Florida.
Nadata gibbosa var. *rubripennis* ♂♀ Neum. and Dyar.
Nystalea indiana ♀ Grote. Florida.
Hyparpax venus ♂ (♂) Neum. Colorado, Bruce.
Hyparpax venus var. *tyria* ♂ (♂)? Slosson. Florida.

Some time ago I was visiting Mr. Graef, who had just received a pair (♂ ♀) *H. venus* from Mr. Bruce, and he expressed the belief to me that *venus* is but a local race of his *aurostriata*. In this connection the form *tyria* may be instructive. There are two specimens, side by side, in the Neumoegen collection, one of which is marked as "type" of *tyria*, while the other has no label whatever. The latter specimen is identical in color with *aurostriata*, while the "type" is a good intergrade. It is curious that this should be found in company with *aurostriata*, that is to say in Florida.

Cerura modesta ♂ Hudson. Adirondacks.
Melia (?) *danbyi* ♂ Neum.
Notodonta notaria ♂ Hy. Edwards. Colorado.

CERATOCAMPIDÆ.

Sphingicampa bicolor var. *suprema* ♂ (♀) Neum. Kentucky.
Sphingicampa bisecta var. *nebulosa* ♀ Neum. Kentucky.

Eacles imperialis aber. *punctatissima* ♂ Neum. New York.
Eacles imperialis var. *nobilis* ♂♀ Neum. Texas.
Citheronia regalis aber. *sangeri* ♂ Neum. New York.

SATURNIDÆ.

Attacus gloveri var. *reducta* ♂♀ Neum. Colorado, Bruce.
Telea polyphemus var. *oculea* ♀♀ Neum. Arizona, Doll.
Hyperchiria io var. *argus* ♂ Neum. and Dyar.
Hyperchiria pamina ♂♀ Neum. Arizona, Doll.
Hyperchiria pamina var. *aurosea* ♂ (♀) Neum. Arizona, Doll.

BOMBYCIDÆ.

Pseudohazis eglanterina aber. *denudata* ♂ (♂) Neum. Utah.

Here is a curious case. Many entomologists deprecate the naming of aberrant forms. Here we find a name given to a single specimen, an aberration, which is subsequently duplicated from the same locality. This gives color to my claim that aberrant forms are the initial departures from type, which are the precursors of new varieties, races, etc.

Pseudohazis eglanterina var. *marcata* ♂ (5 ♂) Neum. Oregon.
Hemileuca yavapai ♂♀ Neum. Arizona, Doll.
Hemileuca hualapai ♀ Neum. Arizona, Morrison.
Hemileuca neumoegeni ♂♀ Hy. Edwards. Arizona, Doll.
Cnethocampa grisea ♀ (♀) Neum. Arizona, Doll.
Clisiocampa incurva ♂♀ (♂♀♀) Hy. Edwards. Arizona, Doll.
Clisiocampa incurva var. *constrictina* ♂ Neum. and Dyar.
Clisiocampa mus var. *discolorata* ♂♂♂ ♀♀♀ Neum. Utah.

COSSIDÆ.

Aon noctuiformis ♂♂ Neum. Texas.

Type of genus as well as species.

Hypopta bertholdi ♂ Grote. Colorado.
Hypopta henrici ♂♀ Grote. Colorado.
Hypopta manfredi ♂♂ Neum. Arizona, Morrison.
Hypopta edwardi ♂ Neum. and and Dyar. Colorado, Bruce.
Hypopta ethela ♂ Neum. and Dyar. Colorado, Bruce.
Hypopta cornelia ♂ Neum. and Dyar. Colorado, Bruce.
Cossus perplexus ♂ Neum. and Dyar. Colorado, Bruce.
Cossus mucidus ♂ (♂) Hy. Edwards. Arizona, Morrison.

HEPIALIDÆ.

Hepialus roseicaput ♂ Neum. and Dyar. British Columbia.
Hepialus sangarri ♂ Neum. California.

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PHILADELPHIA, PA., NOVEMBER, 1895.

TO WHOM SHOULD WE LOOK FOR SUBSCRIPTIONS?

SOME days ago an entomologist in another city asked one of our friends if that journal the NEWS was still in existence? he replied that it was, and very much so. The man from the other city thought the NEWS was dead because he failed to send us the small sum of one dollar, and consequently did not receive the journal. There are many people who think the NEWS should be sent to them free because they are entomologists, and perhaps, also, because they think themselves "some pumpkins" in the fraternity. Now, who should support entomological journals? Should the mason, the carpenter, or the shipwright pay for the NEWS so that the entomologist might get it free? We also wish to say a word to those who say they can't raise a dollar to pay for the journal. There is not a person who would care to have an entomological publication who could not save a dollar a year. There are many luxuries and useless expenditures that could be cut down in a whole year and not one dollar saved, but many. Take one of these dollars and subscribe to the NEWS and get many dollar's worth of mental pabulum. Another way would be to get a box and put in it two pennies a week, and in a year you would have one dollar and four cents. The journal "Papilio" had a large complimentary subscription list and no one of "these dead-heads" objected to receiving the publication, but when asked to pay a small sum for what they received they, of course, failed to respond. Such things should not be, and will not be in the case of ENTOMOLOGICAL NEWS.

C. H. TYLER TOWNSEND has removed to Las Cruces, New Mexico.

DEPARTMENT OF ECONOMIC ENTOMOLOGY.

Edited by Prof. JOHN B. SMITH, Sc.D., New Brunswick, N. J.

Papers for this department are solicited. They should be sent to the editor, Prof. John B. Smith, Sc.D., New Brunswick, N. J.

The Elm Leaf Beetle.—At the meeting of the Economic Entomologists at Springfield, Mass., several communications were read on the subject of the Elm Leaf Beetle, and several notable experiences were brought out, mostly as the result of work done by or under the direction of competent entomologists. I did not have at that time the report on some experiments made at West Point, N. Y., and as these are decidedly interesting and of practical importance, it is presented here; but first a few words of explanation.

Lieutenant William Weigel, U. S. A., is in charge of the grounds at the post, and it is his duty to see that everything is kept in order and in as good a condition as possible. For a number of years past the elms, which form the bulk of all the trees on the post, have been defoliated by the beetles or their larvæ, until it became a question whether it would not be better to cut them down rather than to allow them to die gradually. Lieutenant Weigel is a graduate of Rutgers, and conceived the idea that possibly the entomologist, whose course he did not take when at college, might be able to help him out of the difficulty with his elm trees. He therefore called upon me late in the Winter, stated his case, and received Bulletin No. 103 of the College Experiment Station, together with full verbal directions on several minor points not touched upon in the Bulletin, but set out in full in my Report for 1894. The insecticide recommended was the arsenate of lead, and his report stripped of any introductory and concluding matter is as follows:

"Now for my report. We have here, within the limits of the Post, 498 elm trees of various sizes, and perhaps made up of three or four varieties. I followed your instructions implicitly, as contained in your pamphlet, both as to time of spraying and mixture to be used. I used arsenate of soda and acetate of lead in the proportions which you gave and also used common black molasses to give the proper adhesive property to the mixture. My whole plant consisted of:—

"1 steam fire-engine, . . .	1 man (engineer), to run same.
1 water-wagon (street sprinkler, capacity 350 gals.).	
1 team and wagon to haul mixture and to change position of plant	1 man (teamster).
To climb trees and use spray.	2 men.
Total	4 men.

"Attached to the fire-engine I had two lengths of ¾" hose, each about 200 ft. long. By this means I was enabled to reach all trees within a radius of 500 ft. I used the straight nozzle instead of a sprayer, for I found the latter scattered the stream too much and did not allow the mixture to be thrown far enough. Each tree was sprayed very carefully by men on ladders, and I found that it took about 40 gals. of mixture to spray one good-sized elm well, and that with the above plant and number of men I could spray about 50 trees in a day, located, as they are here, quite near each other. I sprayed all the trees three times, and, as a result, not a single tree lost its leaves from the ravages of the beetle or worm, nor has a single tree had to put forth a second crop of leaves.

"This speaks well, when we consider the situation last year about the latter part of July. Many trees were entirely bare of leaves and looked as though they had been near a very hot fire; further, one-half of the trees had to put forth a second crop of leaves, and in two instances I think a third crop put in an appearance. True, last Summer (1894) was very favorable for the insect, because it was very warm and dry, whereas this year we had a delightfully cool July, and we were favored by several very heavy storms.

"Several of the oldest residents of the Post, who have the interest of West Point at heart and who have watched with much interest and attention the various attempts made to save the elms of the Post, state that the elms look better this year than they have any year since the beetle first put in its appearance. This, I think, speaks well for your remedy, for the beetles appeared in great numbers and early in the season this year. I further discovered that the mixture did not injure the most delicate plants in the front yards, nor did the mixture distress or injure the men who handled it, further than perhaps a slight irritation of the throat at the start, but which soon passed away."

"Next year I propose to start a little earlier, and also shall make an attempt to destroy many of the beetles before they reach the elms."

This report is, of course, extremely satisfactory, and perhaps one reason for it is to be found in the statement made by Lieutenant Weigel that he followed directions "implicitly," a little point that is altogether too often forgotten by those who undertake to apply insecticides. Of course, the application was a was teful one, but it was made with the apparatus at hand. It did not need a fire-engine, because a one- or two-horse power, small steam-engine mounted on a tank-wagon would have answered the purpose just as well. Using a straight nozzle instead of a graduating one, which would throw a spray, doubled the quantity of material required and also the length of time necessary to do the spraying. Even a coarse spray would cover very much more rapidly than a jet, and possibly for such purposes the new Ball nozzle might prove serviceable. At all events the report proves, and this is the real reason for its presentation here, that it is absolutely possible to preserve trees on a large scale from the ravages of this insect.

Scolytus 4-spinosus Say.—In the last number of the NEWS was published a picture illustrating the work of this insect. In the original plate as it appeared in "Garden and Forest," the picture was nearly double the length and illustrated, in natural size, a piece of bark torn from a hickory tree that had been killed by these insects. It has been my fortune to see more of the work of this insect during the present year than ever previously; not only in New Jersey, but in western Pennsylvania, where I spent three days in the vicinity of Pittsburg during the latter part of July.

In 1894 the insect was complained of as injuring certain trees not far Newark, N. J., on the grounds attached to certain suburban residences. Glen Ridge, which is the name of the little town referred to, was originally woodland, and when the place was laid out the forest was preserved just as far as was consistent with laying out streets and building residences. There are, therefore, quite an unusual number of forest trees in this little town, and in the hills back of it, and heretofore they have been among the chief ornaments of the place. Hickories are quite abundant and they did well, apparently, until two or three years ago, when occasionally a tree died off. In 1894 the dying became so general that alarm was created, and when I visited the village I found that everywhere hickories were infested by this *Scolytus*. Its little round holes could be seen abundantly on the bark of the trees, and associated with it in the work of injury were certain Buprestid larvæ, probably belonging to the genus *Dicerca*, because I found specimens of this genus on the bark, and there was also a longicorn at work, although I had no means for determining the exact species.

I was a good deal interested when I found in the vicinity of Natrona, Allegheny County, Penna., in little patches of woodland, that a large number of hickories were dying from the same cause. Trees were found there in all stages; some of them apparently yet entirely healthy, though the trunk was peppered by the little shot holes; some just dying and the leaves withering; some of them dead, not having leafed out at all during the Spring of 1895. Others there were with only a few holes here and there through the bark, and healthy in appearance so far as the look of the foliage was concerned, but evidently infested and doomed if the insect be allowed to continue unchecked. I have noticed elsewhere, since my attention has been called to the matter, dying hickories in all parts of the State of New Jersey. Apparently, for some reason, this insect has taken a start and has done, and probably will continue for some time to do, considerable damage. I have had in my laboratory for some time a section of a trunk, two feet long and about seven inches in diameter, cut from one of the dying trees at Natrona. I was desirous of getting the beetle in some numbers, and of getting also all stages, but find that, apparently, the insects do not develop while in drying wood. It seems as if they require a certain amount of living tissue or moisture for their development. In this respect they differ from *S. rugulosus*, which will develop just as readily in wood that is entirely dead as in that which is simply weakened.

Associated with the injury by the *Scolytus* at Natrona, I found also the exit holes of what was apparently a longicorn, and I found also a few longicorn larvæ in wood that was split when the trees were cut down. These may have been *Cyllene pictus*. In trees that were entirely dead, and from which the bark had been loosened I also found specimens of *Tremex columba* which had died in the effort to emerge, and I was not able to decide the question satisfactorily whether, as a matter of fact, the *Scolytus* was the first one to attack the healthy trees or whether they had been weakened by some other attack previously.

In the case of the trees at Glen Ridge, N. J., there was an adequate reason for the attack by insects, since from their situation they had been deprived of moisture and nourishment for a long series of years past, which had probably resulted in greatly weakening them. For the trees at Natrona no such reason could be assigned. To be sure there had been a drought the year before and everything was at the time of my visit suffering from lack of rain, but this could scarcely have been sufficient to account for the enormous development of the insect, especially as many of the trees had evidently been attacked several years ago.

The problem of dealing with insects of this kind is one that is by no means solved, and indeed we are, to a very considerable extent, helpless against the creatures. My observations indicated that there was at least two broods of the *Scolytus* in the course of the season, and as we have no insecticides that can penetrate and kill the larvæ under the bark, we are reduced to efforts to keep the specimens out, and this is a task by no means easy, considering the habits of the insect. It was noticed, both in New Jersey and Pennsylvania, that a great many of the beetles developed about mid-Summer a fondness for boring into young twigs just below the point from which the leaves started, so that here and there throughout the tree, there were little bunches of leaves wilted, which eventually dried and fell to the ground. This is an injury that cannot be prevented, so far as I am able to see, and apparently these short burrows were made by the beetle for food alone, since I never found any attempt to oviposit in such places. But, while the trunks are undoubtedly the favored point of entrance for the insects, yet I found that if there was any reason why they should not lay their eggs there they had no objections at all to even comparatively small branches. While we may protect a trunk against the entrance of these insects by smears or washes, it is a difficult matter to protect also all the branches, and the subject of dealing with bark boring pests on large trees is one that deserves the careful consideration of economic entomologists. It is in the hope of getting the experience of other students, who may also have observed this insect, that this subject is presented here. The picture illustrates a typical gallery, not quite complete in the picture as shown in the last number, but the form of the central burrow and the method of branching in the larval burrows is characteristic, and well shown. This piece of bark was taken from a tree entirely dead, and the tree, which was a large one, nearly eighteen inches

in diameter, had scarcely an inch of sound sap wood so far as it was laid bare by me. The specimen from which the photograph was made was practically the only one that showed an entire set of galleries fairly well. Almost everywhere else they were so intermingled that it was impossible to get an isolated single set.

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

[The Conductors of ENTOMOLOGICAL NEWS solicit, and will thankfully receive items of news, likely to interest its readers, from any source. The author's name will be given in each case for the information of cataloguers and bibliographers.]

To Contributors.—All contributions will be considered and passed upon at our earliest convenience, and as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for certain issue. Twenty-five "extras" without change in form will be given free when they are wanted, and this should be so stated on the MS. along with the number desired. The receipt of all papers will be acknowledged.—ED.

"THE muscular power of the Flea is so great that it can leap to the distance of two hundred times its own length, which will appear the more surprising when we consider that a man, were he endowed with equal strength and agility, would be able to leap between three and four hundred yards."

"MAMMOTH CAVE, in Kentucky, is getting to be a gigantic beehive," says a Cincinnati man. "The last time I went through the cave I took both the long and short routes, as they are called. At several places there were rather too many bees for me to feel entirely comfortable, although I was not attacked by any of them. If the cave should be explored for honey some rich finds would undoubtedly be made. The bees are increasing constantly."—*Newspaper.*

WHILE out collecting July 19, 1895, on the Diamond Hill road near this place I was surpised by seeing a strange looking butterfly fly past me going at a great rate of speed. I immediately gave chase, and, after a hard run of about four hundred yards, I caught it as it settled on some milkweed blossoms near the roadside, and to my great surprise I found it to be a specimen of *Papilio ajax*. Thinking this a catch worthy of notice for this part of the country I thought it would interest some of the readers of the NEWS.—WM. DEARDEN, Lonsdale, R. I.

NATURE STUDY BALKED.—Chicago, Ill., September 16.—The 400 pupils in the South Division High School are very largely in open revolt against a hard bargain which Principal Slocum endeavored to drive with them.

Next month this school is to be practically devoted to nature study, and in anticipation of this Mr. Slocum told the pupils a good mark would be given for every twelve grasshoppers brought in by a pupil. But the plan isn't working successfully, for, out of the 400 pupils, only 15 have brought in grasshoppers. There are just three pupils in the school who are not supporting the revolt. They are the only boys in the school, the number standing: girls, 397; boys, 3. The boys have been catching the grasshoppers and selling them to the girls at ten cents a dozen. Twelve of the girls bought 144 grasshoppers from the boys, and the three boys turned in 36 grasshoppers themselves to keep up appearances. Now the girls will buy no more locusts, and the boys' money-making plan is balked.—*Newspaper.*

I HAVE this year taken seven specimens of *Chrysophanus helloides*, both ♂ and ♀, in this locality. The specimens were very bright and fresh, and must have recently emerged. The dates of capture were September 1 to 12, which would seem to indicate that the species is double brooded. I have it from the West, but all my other examples bear earlier date of capture. Prof. French thinks this a parallel with the case of *Terias mexicana*, which has migrated from the southwestern limits of the United States to Canada. I would be interested to know from your readers date and place of earliest occurrence of *C. helloides* in order, if possible, to show the route traveled, and the time consumed in making its journey from the West. It was first recorded from the Rocky Mountains, I believe, and later West to the Pacific. Its most Eastern limit hitherto, so far as has come under my observation, was western Nebraska. Any one who has taken it in intervening territory will greatly oblige me by reporting the fact.—JOHN L. HEALY, 811 Morse Ave., Chicago.

I have received *Chrysophanus helloides* from Grinnell, Iowa.—H. SKINNER.

GENERAL COUNT DEJEAU, Aide-de-camp to Napoleon Bonarparte, was so anxious, says Jæger, to increase the number of specimens in his entomological cabinet, that he even availed himself of his military campaigns for this purpose, and was continually occupied in collecting insects and fastening them with pins on the outside of his hat, which was always covered with them. The Emperor, as well as the whole army, were accustomed to see General Déjeau's head thus singularly ornamented, even when in battle. But the departed spirits of those murdered insects once had their revenge on him; for, in the battle of Wagram, in 1809, and while he was at the side of Napoleon, a shot from the enemy struck Déjeau's head and precipitated him senseless from his horse. Soon, however, recovering from the shock, and being asked by the Emperor if he was still alive, he answered, "I am not dead; but, alas! my insects are all gone!" for his hat was literally torn to pieces.—*History of Insects*, p. 53.

COLLECTING IN MARYLAND.—Have had very little chance to collect much in this (to me) new locality, but what little I have done has brought

to light many of my old New York friends, the *Catocalæ*. I was told here on the sea-shore I would find *Catocalæ* very scarce, and in few varieties, but in one week's collecting, starting June 24th, I took *Catocala nubilis, elonympha, gracilis, sordida* var., *grynea, fratercula* var., *polygama, clintonii, ultronia, coccinata, ella, uxor* var. *tristis, epione, muliercula, præclara* and four other varieties not yet determined. The woods here are nearly all pine, with scrub oak, pin oak, swamp hickory, swamp maple, swamp gum, yellow poplar and magnolia scattered through them, mostly in clearings where the large pines have been cut. I hardly expected to see *C. tristis* here, yet I took seven in one night, and three *C. coccinata* on another evening. *C. epione* was plentiful and flew just at sundown, the first always to appear. *C. elonympha* was also among the first. I took a fine, fresh example on the 20th of May. I feel sure if I had been able to put in every night from the first of June I could have taken several thousand examples of *Catocala* alone. Other noctuids were plentiful in June, very few in July. Of the Sphingidæ, *C. catalpæ* was very plentiful, also *amynator;* also *S. plebeius, A. chœrilus* and *myron*, and several others. For a few weeks in June *Callimorpha vestalis* was so common along the edges of the salt marsh that thousands could have been taken in a day, while *Homoptera edusa* and *lunata*, in all sizes and shades of color, literally cover the trees at night. Another year I expect to be able to collect the whole season.—O. D. FOULKS, Stockton, Md.

Identification of Insects (Imagos) for Subscribers.

Specimens will be named under the following conditions: 1st, The number of species to be **limited to twenty-five** for each sending; 2d, The sender to pay all expenses of transportation and the insects to become the property of the American Entomological Society; 3d, Each specimen must have a number attached so that the identification may be announced accordingly. Exotic species named only by special arrangement with the Editor, who should be consulted before specimens are sent. Send a 2 cent stamp with all insects for return of names. Before sending insects for identification, read page 41, Vol. III. Address all packages to ENTOMOLOGICAL NEWS, Academy Natural Sciences, Logan Square, Philadelphia, Pa.

Entomological Literature.

1. LE NATURALISTE CANADIEN, xxii, 8, 9.—The last descriptions of L'Abbé Provancher (cont.).

2. PROCEEDINGS OF THE ROYAL SOCIETY OF VICTORIA, vii (new series).—Contributions to a knowledge of the Rhynchota of Australia, E. Bergroth.

3. INDIAN MUSEUM NOTES. Calcutta, iii, 4.—An account of the insects and mites which attack the tea plant in India, E. C. Cotes.

4. VERHANDLUNGEN DES NATURHISTORISCHEN VEREINS DER PREUSSISCHEN RHEINLANDE, Westfalens, u. s. w., Jhg. 41, pt. 2.—Contributions to the biology of *Phosphænus hemipterus* and allies, C. Verhoëff.

5. Descriptive Catalogue of the Spiders of Burma, T. Thorell, 8vo. British Museum, London, 1895, pp. 406.

6. Classification of the Lepidoptera of Hildesia [Hildesheim?], compiled after the preliminary works of Bates, Scudder, Guilielmus, Mueller, Comstock, Dyar, Chapman, by A. R. Grote.

7. SITZUNGSBERICHTE DER AKADEMIE DER K. P. WISSENSCHAFTEN ZU BERLIN, 1895, Nos. 30, 31.—Contributions to the knowledge of the genus *Melipona* sens. lat., H. Stadelmann.

8. ANNALS AND MAGAZINE OF NATURAL HISTORY. London, No. 93. —Notes on the identity of some of the types of Mygalomorphæ in the collection of the British Museum, R. I. Pocock. On a new sound-producing organ in a spider, ibid.

9. ABHANDLUNGEN DES NATURWISSENSCHAFTLICHEN VEREINS ZU BREMEN, xiv Bd. Heft 1 [abstract].—List of the North American Eupterotidæ, Ptilodontidæ, Thyratiridæ, Apatelidæ and Agrotidæ, by A. R. Grote.

10. BULLETIN SCIENTIFIQUE DE LA FRANCE ET DE LA BELGIQUE. Paris, xxvi.—The Malpighian tubes of the Hymenoptera, L. Bordas.

11. ZOOLOGISCHER ANZEIGER. Leipzig, No. 484.—On the Anatomy of the plant-lice, Aphids, A. Mordwilko.

12. TUFTS COLLEGE STUDIES, No. 4.—The morphology and classification of the Pauropoda, with notes on the morphology of the Diplopoda, F. C. Kenyon.

13. THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION. London, vii, 1.—The resting habit of insects as exhibited in the phenomena of hybernation and æstivism, J. W. Tutt.

14. PSYCHE. Cambridge, Mass., October, 1895.—Revision of the species Spharagemon, A. P. Morse.

15. PROCEEDINGS OF THE CALIFORNIA ACADEMY OF SCIENCES (2), vol. v [extract].—Coleoptera of Baja California, Supplement i, G. H. Horn.

16. PROCEEDINGS OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, pt. 2, 1895 [extract].—Synopsis of the Bembicini of Boreal America, W. J. Fox.

17. TRANSACTIONS OF THE WISCONSIN ACADEMY OF SCIENCES, vol. x. —The sense of sight in spiders with some observations on the color sense, G. W. and E. G. Peckham.

18. CANADIAN ENTOMOLOGIST, xxvii, 10.—Charles Valentine Riley, J. F. Studies in N. A. Membracidæ, iii, F. W. Goding. Some notes on *Bruchus* in New Mexico, C. H. T. Townsend. Preparatory stages of *Alypia langtonii* Couper, H. G. Dyar, Relationship of the fauna of Puget Sound to that of Mexico and Canada, W. H. Patton. *Sphinx canadensis* Boisduval, J. A. Moffat. New Tenthredinidæ, A. D. Macgillivray. *Oenectra flavibasana* Fern., J. A. Moffat. Review of a few more Provancher types of Ichneumonidæ, G. C. Davis. Systematic value of the larva of *Spermophagus*, W. H. Patton. Notes on a trip to the Bahama Islands, H. F. Wickham. List of Lepidoptera taken at Sudbury, Ont., J. D. Evans.

19. TRANSACTIONS OF THE ENTOMOLOGICAL SOCIETY OF LONDON, 1895, pt. 3.—Contributions to a knowledge of African phytophagous Coleoptera, pt. 2, M. Jacoby. An attempt to correlate the results arrived at in recent papers on the classification of Lepidoptera, J. W. Tutt. A monograph of the British Braconidæ, pt. 6, T. A. Marshall. Further notes on the secretion of potassium hydroxide by *Dicranura vinula* (imago), and similar phenomena in other Lepidoptera, O. H. Latter. Notes on seasonal dimorphism of Rhopalocera in Natal, C. W. Barker.

20. ACTES DE LA SOCIETE SCIENTIFIQUE DU CHILI, vol. iv, pt. 5.—Material for a study of the entomological fauna of Chili, J. Gribodo. Notes on the ants of Chili, with descriptions of new species, C. Emery. Short contribution to the physiology of insects: on the nature of the liquid which is excreted by some Coleoptera as means of defense, C. E. Porter.

21. BIOLOGISCHES CENTRALBLATT, xv, 18.—Theories concerning the descent (Descendenztheoretisches) of Lepidoptera, T. Garbowski.

22. THE ZOOLOGIST. London, No. 225.—The migration of butterflies, J. E. Harting.

23. THIRTEENTH ANNUAL REPORT OF THE OHIO AGRICULTURAL EXPERIMENT STATION for 1894.—Report of the Entomologist, F. M. Webster.

24. THE ENTOMOLOGIST. London, No. 389.—Notes on the synonymy of Noctuid Moths (cont.), A. G. Butler.

25. THE BUTTERFLIES OF NORTH AMERICA, by Wm. H. Edwards, part xvi.—This part deals with *Parnassius smintheus*, *Satyrus charon*, *Chionobas gigas*, all of which are figured and fully treated of in the usual excellent manner.

INDEX TO THE PRECEDING LITERATURE.

The number after each author's name in this index refers to the journal, as numbered in the preceding literature, in which that author's paper is published; * denotes that the paper in question contains descriptions of new North American forms.

THE GENERAL SUBJECT.

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COLEOPTERA.

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LEPIDOPTERA.

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HYMENOPTERA.

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Doings of Societies.

PHILADELPHIA, OCT. 8, 1895.

A stated meeting of the Feldman Collecting Social was held at the residence of Mr. H. W. Wenzel, 1509 S. 13th St. Members present: Messrs. Bland, Hoyer, E. Wenzel, Trescher, H. W. Wenzel, Dr. Castle, Laurent, Fox, Schmitz, Haimbach and Boerner. Honorary members: Drs. Henry Skinner, George H. Horn and Prof. John B. Smith.

Meeting called to order at 8.40 P. M., President Bland presiding. Prof. Smith stated that the specimens of borers which he had received from Mr. H. W. Wenzel were not the common Peach borer, but the Plum borer, that the finding of it on the Peach interested him very much, and that he considered it well worthy of further investigation, as this species is not recorded as being injurious to the Peach. Dr. Skinner spoke on the life-habits of *Argynnis diana*, referring to a statement made of the males appearing a month or more in advance of the females, and making the query why this should be so; the question was generally discussed without any one throwing any light on the subject. Mr. Laurent exhibited a case of Micro-Lepidoptera collected during the Summer, mostly at Mount Airy, Philadelphia. Prof. Smith stated that he had noted some interesting facts in connection with the vitality of *Scolytus quadrispinosus* and *S. rugulosus*. He had brought with him a hickory log from Alle-

gheny City which was very much infested with the former species, but after the wood became dry all of the larvæ died; this he stated is not the case with *Scolytus rugulosus*, which he had bred in great numbers from dead wood in his laboratory, the species readily boring into the dead wood. Dr. Horn entertained the members with some interesting narrations on the differences between some species of Coleoptera. On motion of Mr. Boerner, Mr. C. Few Seiss was unanimously elected an active member of the Social. No further business being presented the meeting adjourned to the annex. THEO. H. SCHMITZ, *Secretary*.

ENTOMOLOGICAL SECTION OF THE CHICAGO ACADEMY OF SCIENCES.—The regular meeting was held in the Matthew Laflin Memorial Building, Lincoln Park, Friday, October 18th, at 8 P. M. Two papers were presented:—"A Tribute to Prof. C. V. Riley," by Mr. W. E. Longley. "Observations on Collecting Lepidoptera during 1895," by John J. Healy.

ARTHUR J. SNYDER, *Recorder*.

The Entomological Section

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

PROCEEDINGS OF MEETINGS.

MAY 23, 1895.

A regular stated meeting of the Entomological Section of the Academy of Natural Sciences was held in the Hall, S. W. cor. Nineteenth and Race Streets, this evening, Dr. Geo. H. Horn, director, presiding. Mr. Wm. J. Fox called attention to the superficial resemblance between *Myzine* and a new genus he proposed to call *Engycystus*. The differences between the two were pointed out. Dr. P. P. Calvert said that he always held it was the business of an entomologist to study the external structure of insects, but the internal as well. He had lately been studying the internal anatomy of the youngest larvæ of two species of Dragonflies. The literature of the subject was mentioned, but no one had studied sections of the eggs. Sections of the young larvæ were studied in *Gomphus* and in *Libellula pulchella*. Observations of interest were made in regard to the alimentary canal and respiratory system. Trachæa were not found in the newly-hatched larvæ. The histological anatomy was dwelt on at length, In discussing the alimentary canal the Malpighian tubercles were mentioned, and in the larvæ in question there were three Malpighian tubercles. In the larvæ of *pulchella* there are traces of the rectal tracheal gills, but not in *Gomphus*.

JUNE 10, 1895.

Meeting held this evening, Mr. Charles S. Welles, Vice-Director, presiding. Mr. Philip Laurent mentioned that two species of Coleoptera: *Hydrophilus ovatus* and *Calosoma sayi*, had been found in numbers in the city, at the electric lights on South Broad Street, by Mr. Fox and

himself. Of the former species nineteen had been found, and of the latter twenty-three. Mr. Calvert stated that Mr. Laurent had taken, at Anglesea, Cape May County, N. J., *Tetragoneura semiaquea* Burm., not before recorded from that State. The speaker also said he had lately been studying the dragonflies sent by the California Academy of Sciences, which had been collected in Lower California. One species had been found, not recorded North of Brazil. The northern limit of *Mecistogaster ornatus* was mentioned. No new species were discovered. Mr. George Luccareni was duly elected an associate of the Section.

SEPTEMBER 26, 1895.

Meeting held this evening, Mr. Philip Laurent presiding. Mr. C. F. Seiss put on record the finding in Philadelphia of *Libellula axillena*, the nearest recorded locality being fifty miles distant. He also stated that his brother, Dr. Seiss, had examined the contents of the stomach of a red fox killed in the Adirondack Mountains, New York, and found a half pint of grasshoppers, *Melanoplus bivittatus* Say and *M. femurrubrum*. Mr. Liebeck recorded the finding of *Amara fulvipes* in the city. Mr. Reineck recorded finding *Scymnus punctum* in Philadelphia. Mr. Laurent showed specimens illustrating the life-history of *Eudryas unio*. The larvæ were found on *Euphorbia coloratum*. He also showed larvæ and pupæ of *Papilio philenor*, and spoke of their cannibalistic habits. The full grown larvæ eating those that had just formed chrysalids from larvæ in the same box. The caterpillars were found on *Aristolocha sipho* (Dutchman's pipe). Dr. Horn advised the members to gather fallen twigs of hickory for the purpose of securing Coleoptera from them. Mr. Laurent had tried this and had raised *Heterachthes quadrimaculatus*. Mr. Liebeck had adopted the same plan and had secured *Elaphidion* sp. Dr. Skinner showed larvæ of *Synchlœ lacinia* received from Prof. Cockerell at Las Cruces, New Mexico, and stated that *Synchlœ crocale* had been reared from larvæ of *lacinia*, thus showing they were widely different forms of one species. Dr. HENRY SKINNER, *Recorder*.

The following paper was read and accepted by the Committee for publication in ENTOMOLOGICAL NEWS:

Description of the Female Papilio pelaus Fab.

WITH A FEW REMARKS.

By GEORGE A. EHRMANN, Pittsburg, Pa.

Female.—Primaries less falcated than in the male, the segregated buff band on both surfaces is wider and somewhat suffused inwardly. Secondaries are more produced outwardly than in the male, the submarginal lunated spots are six in number on the upper surface, whereas in the male there are but three, the two lunate spots towards the apex are less defined

and buff in color, the rest are brickish red, the same as the two situated between the median and submedian nervures of the male; underside of secondaries the markings are the same as in the male, the tails are one-fourth of an inch longer than in the male.

Of this extremely rare butterfly I had the good fortune lately to procure a fine female from my collector in Jamaica, and, to the best of my knowledge, it is the only example of this sex in North American collections. This *Papilio* always seemed to be of the greatest rarity from Fabricius to the present time, and Fabricius himself seemed to have been unacquainted with the true *P. pelaus*, as he referred it to Cramer's *P. torquatus* ("Cr. Pap. Exot. pl. 177, figs. A and B"). Is it possible that Cramer's figures are so extremely poor that they (*P. torquatus*) will answer for any caudated species of *Papilio?* We are therefore indebted to the untiring energies of the late Joseph O. Westwood for its rediscovery, for after it (*P. pelaus* Fab.) had slept in the vault of oblivion for fifty years Mr. Westwood found a specimen that agreed with the description of *P. pelaus* Fab. in Mr. Edward Doubleday's collection. He, Mr. Westwood, then figured it as *P. pelaus* Fab., with some doubt, in his admirable "Arcana Entomologica," pl. 18, figs. 1 and 2. Later on (p. 107, "Arc. Ento.") he assured himself that he was right in his discovery by finding *P. pelaus* figured in Mr. Jones' unpublished drawings, vol 1, pl. 32, that are in the British Museum Library, so I doubt if the female has ever been recorded until now.

ENTOMOLOGICAL NEWS for October, was mailed September 30, 1895.